MA 24 F(85)-1

CURRENT INDUSTRIAL REPORTS

Hardwood Plywood

U.S. Department of Commerce
BUREAU OF THE CENSUS

1985
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SUMMARY OF FINDINGS

Total value of shipments including interplant transfers of hardwood plywood was 643.5 million dollars in 1985, a 13-percent decrease from the 728.4 million dollars reported for 1984. Total production of hardwood plywood was 1,040.3 million square feet surface measure in 1985, a decrease of 14 percent from the 1,185.3 million square feet surface measure reported in 1984. Shipments of board cord hardwood plywood were 180.5 million square feet surface measure in 1985 and 198.2 million square feet surface measure in 1984. There were 131 establishments producing hardwood plywood in 1985 compared to 136 establishments in 1984.

Shipments of prefinished hardwood plywood for 1985 were 1,428.4 million square feet surface measure, compared to 1,554.4 million square feet in 1984. There were 35 establishments reporting shipments of prefinished hardwood plywood in 1985 and 35 in 1984.

A description of the survey methodology and related information appears on page 5.

Table 1A. SHIPMENTS OF HARDWOOD PLYWOOD: 1975 TO 1985

(Quantity in millions of square feet, surface measured; value in millions of dollars)

Year	Hardwood plywood shipped from plant in which produced				Prefinished hardwood plywood made from purchased plywood	
	Quantity (including interplant transfers)			Value (including interplant transfers)		
	Total	Shipped as unfinished	Shipped as prefinished		Quantity	Value
1985	955.8	761.2	194.7	643.5	[1]1,233.7	[1]216.0
1984	1,085.5	797.8	287.6	728.4	[1]1,266.8	[1]236.2
1983	[2][1]1,127.5	777.2	350.3	628.8	[1]1,324.8	[1]231.3
1982	[1]1,032.9	642.0	390.9	544.4	[1]1,187.1	[1]231.7
1981	1,070.0	666.0	404.0	575.6	[1]1,410.6	[1]277.8
1980	1,190.0	743.8	446.2	563.7	1,483.5	[1]283.0
1979	1,323.5	871.4	452.1	603.7	2,116.2	376.7
1978	[3]1,374.6	951.8	422.8	529.3	[3]2,509.1	369.8
1977	[3]1,366.6	892.0	474.6	477.4	[3]2,572.8	383.5
1976	1,250.8	734.2	516.6	416.5	2,091.0	293.6
1975	1,148.3	649.2	499.1	347.2	1,861.7	242.1

[1] Includes hardwood plywood owned by others to avoid disclosing figures for individual companies.
[2] These totals include 11 establishments that were not included in the original published totals for 1982 and prior years. For 1982, these establishments accounted for 28.4 million square feet of hardwood plywood production. Comparable data for prior years are not available.
[3] These totals include 9 establishments that were not included in the original published totals for 1977 and prior years. For 1977, these establishments accounted for 108.5 million square feet of hardwood plywood production and 361.7 million square feet of prefinished hardwood plywood. Comparable data for prior years are not available.

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Table 1B. COMPARISON OF VALUES OF SHIPMENTS OF HARDWOOD PLYWOOD AND PREFINISHED PLYWOOD, BY PRODUCT CLASS, AS REPORTED IN THE MA24F, THE 1984 ANNUAL SURVEY OF MANUFACTURES, AND THE 1982 CENSUS OF MANUFACTURES

(Value in thousands of dollars)

Product code	Product description	1984			1982	
			Annual Survey of Manufactures			
		MA24F	Value	Standard error of estimate[1]	MA24F	Census of Manufactures
24351	Hardwood plywood	728.4	660.3	5	544.4	559.4
24352	Prefinished hardwood plywood made from purchased plywood[2]	[2]236.2	239.7	2	231.7	221.5

[1] The annual survey of manufactures percentage standard errors shown are the approximate relative errors of the estimates of level. A more detailed description of the standard error of estimate is given in the introduction of the annual survey of manufactures, Value of Product Shipments, M84(AS)-2, under "Qualifications of the Data."
[2] Includes prefinished hardwood plywood made from hardwood plywood produced at the same establishment (see table 1A, footnote 2).

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call John Streeter, (301) 763-7807.

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

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Table 2. CONSUMPTION OF LOGS AND PURCHASED VENEER IN THE MANUFACTURE OF HARDWOOD PLYWOOD: 1985 AND 1984

Product code	Product description	Unit of measure	1985	1984
	Logs consumed	1,000 ft. log scale	128,783	139,185
	Hardwood logs:			
241101	Domestic[1]	do	73,890	79,873
241102	Imported[1]	do		
241103	Softwood Logs	do	54,893	59,312
	Purchased veneer consumed:[2]			
243256	Hardwood veneer	Msf surface measure	2,231,888	2,551,019
243252	Domestic	do	1,850,498	2,007,220
243254	Imported	do	380,944	543,799
243260	Softwood veneer	Msf 1' basis	117,169	134,110

[1] Combined to avoid disclosing figures of individual companies.
[2] Includes veneer transferred from other plants of the consuming company as well as purchased veneer.

Table 3. PRODUCTION AND QUANTITY OF SHIPMENTS OF VENEER CORE, TYPE II, MOISTURE RESISTANT, AND BOARD CORE HARDWOOD PLYWOOD, FACE SPECIES, BY TYPE OF PLYWOOD: 1985 AND 1984

(Thousands of square feet, surface measure)

Product code	Product description	1985		1984	
		Production	Shipments, including interplant transfers	Production	Shipments, including interplant transfers
24351 20	All species, veneer core-type II, moisture resistant	714,547	698,012	827,466	809,314
24351 02	Birch	195,628	201,628	241,977	249,117
24351 21	Gum	73,922	73,902	77,466	78,085
24351 22	Maple	38,198	35,296	45,079	44,222
24351 23	Oak	205,895	204,763	231,428	220,660
24351 24	Walnut	21,205	17,205	26,422	22,257
24351 25	Other domestic woods	131,835	120,962	140,694	130,311
24351 26	Mahogany	6,480	6,353	5,579	5,422
24351 27	Philippine woods, all types[1]	41,384	37,903	58,821	59,240
24351 29	Other imported woods[1]				
24351 50	All species, board core, total types[2]	247,016	180,487	278,236	198,161
24351 05	Birch	24,689	23,277	27,903	26,670
24351 51	Gum	18,746	18,332	18,848	18,230
24351 52	Maple	8,572	5,978	8,242	5,681
24351 53	Oak	55,412	48,011	70,488	59,648
24351 54	Walnut	31,002	29,608	33,267	32,277
24351 55	Other domestic woods	92,899	45,029	105,522	47,199
24351 56	Mahogany	13,115	7,676	10,292	4,955
24351 57	Philippine woods, all types[1]	2,581	2,576	3,674	3,501
24351 59	Other imported woods[1]				

[1] Combined to avoid disclosing figures for individual companies.
[2] Includes lumber core, particleboard core, hardboard core, etc.

Table 4. PRODUCTION AND SHIPMENTS OF HARDWOOD PLYWOOD, BY TYPE: 1985 AND 1984

(Thousands of square feet, surface measure)

Product code	Product description[1]	1985		1984	
		Production	Shipments*	Production	Shipments*
24351 --	Hardwood plywood	1,040,346	955,843	1,185,347	1,085,458
24351 10	Veneer core - technical and type I, waterproof	(D)	(D)	(D)	(D)
24351 20	Veneer core - type II, moisture resistant	714,547	698,012	827,466	809,314
24351 30	Veneer core - type III, dry bond	33,939	33,182	r39,368	r38,218
24351 50	Board core	247,016	180,487	278,236	198,161
24351 60	Container and packaging type	(D)	(D)	(D)	(D)

Note: For purposes of this report, board core hardwood plywood includes lumber core, particle board core, hardwood core, etc.

*Includes interplant transfers. (D) Data withheld to avoid disclosing figures for individual companies. rRevised by 5 percent or more from previously published figures.

[1]Geographic data are available through purchase of a special tabulation from Industry Division, Bureau of the Census.

Table 5. SHIPMENTS OF PREFINISHED HARDWOOD PLYWOOD, INCLUDING RECEIPTS FOR PREFINISHING: 1981 TO 1985

(Quantity in thousands of square feet, surface measure; value in thousands of dollars)

Year	Total		Hardwood plywood made at the same establishment		Purchased hardwood plywood				Hardwood plywood owned by others	
					Produced domestically		Imported			
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1985	1,428,373	282,444	194,657	66,452	(D)	(D)	1,164,882	211,460	(D)	(D)
1984	1,554,415	336,992	287,643	100,780	(D)	(D)	1,202,379	231,721	(D)	(D)
1983	1,675,225	336,699	350,342	117,407	(D)	(D)	(D)	(D)	75,036	2,912
1982	1,637,175	355,133	391,881	121,504	(D)	(D)	(D)	(D)	59,224	1,960
1981	1,814,610	405,542	404,030	127,705	(D)	(D)	1,312,567	271,286	(D)	(D)

(D) Data withheld to avoid disclosing figures for individual companies.

Table 6. PRODUCTION, SHIPMENTS, EXPORTS, IMPORTS, AND APPARENT CONSUMPTION OF HARDWARE PLYWOOD: 1985 AND 1984

(Quantity in thousands of square feet, surface measure; value in thousands of dollars)

Product code	Product description	Quantity of production	Manufacturers' shipments		Exports of domestic merchandise[1]		Percent exports to manufacturers' shipments		Imports for consumption[2]		Apparent consumption[4]		Percent imports to apparent consumption	
			Quantity	Value	Quantity	Value at port	Quantity	Value	Quantity	Value[3]	Quantity	Value	Quantity	Value
	1985													
24351 --	Hardwood plywood.....	1,040,346	955,843	643,513	44,023	10,461	4.6	1.6	3,412,376	515,414	4,324,196	1,148,466	78.9	44.9
	1984													
24351 --	Hardwood plywood.....	1,185,347	1,085,458	728,362	36,658	7,954	3.4	1.1	2,808,866	478,550	3,830,666	1,198,958	73.3	39.9

Note: For comparison of Standard Industrial Classification-based product codes, Schedule B numbers, and TSUSA numbers, see table 7.

[1] Source: Bureau of the Census report FT 410, U.S. Exports.
[2] Source: Bureau of the Census report FT 135, U.S. General Imports.
[3] This dollar value represents the c.i.f. (cost, insurance, and freight) value at the first port of entry in the United States plus U.S. import duties.
[4] Apparent consumption represents new domestic supply and is derived by subtracting exports from the total of manufacturers' shipments plus imports. Detail data only represents veneer core type II and board core and therefore does not add to total.

Table 7. COMPARISON OF SIC-BASED CODES (DOMESTIC OUTPUT), SCHEDULE B EXPORT NUMBERS, AND TSUSA IMPORT NUMBERS: 1985

Species	Domestic output	Export numbers	Import numbers
Hardwood plywood.....	24351	2401120, 2401140, 2401160	2401420, 2401440, 2401460, 2401900, 2402320, 2402340, 2402360, 2401720, 2401740, 2401760, 2401760, 2401000, 2402520, 2402540

DESCRIPTION OF SURVEY

Scope of Survey. This survey covers establishments manufacturing hardwood plywood and prefinished hardwood plywood, whether made from plywood produced at the same establishment, made from purchased domestic hardwood plywood, or made from purchased imported hardwood plywood. Very small firms (generally less than five employees) for which 1982 Census of Manufactures data were derived from administrative records of other government agencies are excluded.

Survey Methodology. The statistics in this publication were collected by mail on Bureau of the Census annual Form MA24F, Production of Hardwood Plywood. The survey panel includes all known producers of hardwood plywood, except the very small firms excluded from the scope of the survey. Approximately 170 establishments are included. No estimate is derived for the small firms excluded from the survey.

Reliability of Data. Survey error may result from several sources: (1) inability to obtain information about all cases in the survey; (2) response errors; (3) definitional difficulties; (4) differences in the interpretation of questions; (5) mistakes in recording or coding the data obtained; and (6) other errors of collection, response, coverage, and estimation for missing data. These nonsampling errors also occur in complete censuses. Although no direct measurement of the biases due to nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

A major source of bias in the published estimates is due to imputing data for nonrespondents, for late reporters, and for data which fail logic edits. Missing figures are imputed based on yearly movements shown by reporting firms. Imputation generally is limited to a maximum of 10 percent for any one data cell. Figures with imputation rates greater than 10 percent are footnoted.

The imputation rate is not an explicit indicator of the potential error in published figures due to nonresponse, because the actual yearly movements for nonrespondents may or may not closely agree with the imputed movements. The range of difference between the actual and imputed figures is not precisely known, but is assumed to be small. The degree of uncertainty regarding the accuracy of the published data increases as the percentage of imputation increases. Figures with imputation rates above 15 percent should be used with caution.

Revisions to Previous Period Data. Statistics for previous years may be revised as the result of corrected data from respondents, late reports for which imputations were made as described above, or other corrections. Figures which have been revised by more than 5 percent from previously published figures are indicated by footnotes.

Revisions include changes to prior period data resulting from reconciliation of the results of this survey with the 1984 Annual Survey of Manufactures to correct differences in reported data between the two series and to identify and verify new establishments included in the scope of this survey. Table 1B presents a comparison of data from the two series by census product class following the reconciliation.

Adjustment for Price Change. All dollar figures included in this publication are in current dollars; i.e., they have not been adjusted for price change.

EXPLANATION OF TERMS

Quantity and Value of Shipments. The figures on quantity and value of shipments represent physical shipments of all products sold, transferred to other establishments of the same company, or shipped on consignment, whether for domestic or export sale. The value represents the net sales price, f.o.b. plant, to the customer or branch to which the products are shipped, net of discounts, allowances, freight charges, and returns. Shipments to a company's own branches are assigned the same value as comparable sales to unaffiliated customers; i.e., the value includes an appropriate allocation of company overhead and profit. Products bought and resold without further manufacture are excluded.

Production. Total quantity of each type and/or species of plywood produced, whether sold, transferred, or added to inventory, regardless of ownership of materials used.

Hardwood Plywood. Plywood having at least three wood plies, with a face of hardwood veneer; the back and inner plies may be any combination of hardwood or softwood veneer, lumber, particleboard, or hardboard.

Plywood Types

Technical Type and Type I, Waterproof. The bond must withstand full weather exposure and should be unaffected by micro-organisms.

Type II, Moisture Resistant. The bond should retain practically all of its strength when occasionally subjected to a thorough wetting and drying.

Type III, Dry Bond. The bond is suitable for use only where it will not be subjected to water, dampness, or high humidity.

Prefinished Hardwood Plywood. Hardwood plywood panels face finished on one or both surfaces by printing; sanding; grooving; embossing; scoring; striating; or by the addition of fillers, sealers, waxes, oils, stains, varnishes, paints, enamels, and/or similar materials. Prefinished hardwood plywood also includes panels that have been overlaid or laminated with nonwood materials including vinyl. Luan refinished by any of the above processes is included.

Board Core Plywood. Plywood made with a core of lumber, hardboard, or particleboard.

Veneer Core Plywood. Plywood having the inner layers composed of wood veneer as opposed to particleboard, fiberboard, lumber, etc.

COMPARISON OF EXPORT, IMPORT, AND DOMESTIC OUTPUT DATA

The Standard Industrial Classification (SIC) system used for domestic output and the statistical export and import commodity classifications were developed independently. This results in considerable difficulty in comparing the three types of data for many commodity areas. The domestic output classification is based on type of industry; on the other hand, the export and import classification system is more materials oriented. Also, there are a substantial number of imported commodities which have no comparable domestic output classification. The relationships shown in this report should be considered only as approximations, since, in addition to the problems mentioned above, there are also the following problems affecting the comparability of the three sets of data.

Valuation. There are different methods of valuation for the three types of data:

- *Domestic Output*— Valued at the point of production. It includes the net sales price, f.o.b. plant, after discounts and allowances, exclusive of freight charges and excise taxes.

- *Exports*— Valued at the point of exportation. It includes the selling price, or cost if not sold, and inland freight, insurance and other charges to the export point.

Estimated producers' values of exports have also been developed. These values more closely approximate the values reported for domestic output because they exclude freight, insurance, and other charges applied from the producing plant to the export point.

- *Imports*—Valued at the first port of entry in the United States. It includes c.i.f. (cost, insurance, and freight), duty, and other charges to the import point.

Duplication in Quantity and Value of Output. Because producers' shipments of some commodities may be used as materials for incorporation into other commodities, combinations of data for such commodities may contain a certain amount of duplication. Thus, percentages of exports to output or imports to apparent consumption (output plus imports minus exports) at four-digit or broader levels may be understated. Where duplication is known to be substantial, the output data are appropriately noted in the table.

Low-Value Import and Export Transactions. Detailed commodity information is not included for individual export shipments valued at not more than $1,000. Generally, detailed commodity information is not included for individual import shipments valued at not more than $1,000. For textiles and textile products, gloves, footwear, and miscellaneous rubber and plastics products, detailed commodity information is not included for individual import shipments valued at not more than $250. This is believed to have only negligible effects on the statistics for the bulk of the commodities.

Manufacturers' Shipments, Not Specified by Kind. The value of manufacturers' shipments at the four-digit industry level often includes a small amount which is not distributed among the individual five-digit product classes. Export and import percentages at the more detailed levels might, therefore, be slightly overstated.

Time Lag Between Output and Exports. There will be a lag between the time a commodity is produced or shipped by the producer and the time it is actually exported, especially when intermediaries (wholesalers, exporters, etc.) are involved. Ordinarily, this type of discrepancy is insignificant in annual figures.

"Direct" vs "Total" Commodity Exports and Imports. Export and import data do not include materials which are incorporated into other more finished products and exported or imported in finished form. Thus, by showing only direct exports and imports, the relation of exports to output and imports to apparent consumption for intermediate products is considerably understated.

Used Commodities. With a few exceptions, used or rebuilt commodities are classified in the same import or export codes as is new merchandise. Percentages are thus overstated to the extent that used or rebuilt products are significant in trade.

Geographic Area of Coverage. Import and export data reflect the movement of merchandise into and out of U.S. foreign trade zones, the U.S. Virgin Islands, and the U.S. customs territory (includes the 50 States, the District of Columbia, and Puerto Rico).

HISTORICAL NOTE

Data on hardwood plywood have been collected by the Bureau of the Census since 1951. Historical data may be obtained from Current Industrial Reports (called Facts for Industry before 1959) available at your local Federal Depository Library. A list of these libraries may be obtained from the Bureau of the Census regional offices cited below:

Office	Telephone
Atlanta, Georgia	(404) 881-2271
Boston, Massachusetts	(617) 223-2327
Charlotte, North Carolina	(704) 371-6142
Chicago, Illinois	(312) 353-6251
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CONTACTS FOR DATA USERS

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Current Industrial Report MA24F	John Streeter	(301) 763-7807
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To order a Census Bureau publication	Customer Services (DUSD)	(301) 763-4100
International Trade Administration	Barbara Wise	(202) 377-0378

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